



**INTERNATIONAL STANDARD ISO/IEC 23008-12:2017**  
**TECHNICAL CORRIGENDUM 1**

Published 2020-01

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# **Information technology — High efficiency coding and media delivery in heterogeneous environments —**

## **Part 12: Image File Format**

### **TECHNICAL CORRIGENDUM 1**

*Technologies de l'information — Codage à haute efficacité et livraison des médias dans des environnements hétérogènes —*

*Partie 12: Format de fichier d'image*

*RECTIFICATIF TECHNIQUE 1*

Technical Corrigendum 1 to ISO/IEC 23008-12:2017 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

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*Throughout the document, replace all occurrences of "Track\_enabled" with "track\_enabled".*

*Throughout the document, replace all occurrences of "Track\_in\_movie" with "track\_in\_movie".*

*In the Introduction, add the following after the sentence: "The file format specified in this document is referred to as the High Efficiency Image File Format (HEIF)."*

HEIF is suggested to be pronounced "heaff" (like heath with an ff ending).

*Remove 3.1.37 (definition of thumbnail image) and renumber the subsequent terms and definitions.*

*In Clause 4, replace the paragraph about Clause 9 with:*

Clause 9 specifies enhancements to the ISO base media file format.

*In subclause 6.2, remove the final paragraph.*

*In 6.4.2, remove ", as specified in 9.2" from the first sentence.*

*Add the following paragraph at the end of 6.5.4.1:*

When no pixel aspect ratio 'pasp' descriptive item property is associated with an image item, readers shall infer pixel aspect ratio 1:1 to apply for the image item.

*In 6.5.8.1, replace:*

Box type: 'auxc'

*with:*

Box type: 'auxC'

*Add the following NOTE at the end of 6.6.1:*

NOTE This document does not require the colour space of the input images for grid or overlay derived image items to be identical. Derived specifications could constrain the colour space to avoid the need for colour space conversions in the derivation process.

*In 6.8.2.1, remove the second item in the list ("— S: the media timescale of the track;")*

*In 7.2.1, replace both occurrences of "to0x0001000" with "to 0x00010000".*

*In 7.3, replace the final paragraph with the following:*

(flags & 1) equal to 1 in the EditListBox indicates that media is repeated, as specified in ISO/IEC 14496-12.

When (flags & 1) is equal to 1, the entire edit list is repeated a sufficient number of times to equal the track duration.

NOTE The number of times the edit list is repeated does not need to be an integer. In other words, the last repetition of the edit list can be cut to match the track duration.

If the track duration is unknown/indefinite, the edit list is repeated indefinitely.

*In 7.5.2, remove ", as specified in 9.5" from the second sentence.*

*In 7.5.2, remove ", as defined in 3.1.29" from the fourth sentence.*

*In 7.5.3.1, remove ", as defined in 3.1.39" from the final sentence.*

*In 7.5.3.3, replace the content of the subclause with:*

```
aligned(8) class AuxiliaryTypeInfoBox
    extends FullBox ('auxi', 0, 0) {
    string aux_track_type;
}
```

*In 8.3, remove ", as defined in 3.1.39" from the second paragraph.*

*In 8.3, remove "as defined in 9.7" from the final paragraph.*

*Add the following at the end of 9.4.3.1:*

NOTE When a 'ster' entity group indicates that the primary item contains one view of a stereo pair, the primary item is intended to be displayed in monoscopic viewing of that stereo pair.

*Replace the content of Clause 9 with the following:*

## **9 Extensions to the ISO base media file format**

Enhancements to the ISO base media file format are specified in ISO/IEC 14496-12.

*In 10.3.1.1, in the third paragraph replace the reference to "C.4.2" with "B.4.2".*

*In 10.3.1.2, replace the final paragraph with:*

The `EditListBox` repetition, as specified in 7.3, shall be supported.

*In A.4, replace the first paragraph with:*

MPEG-7 metadata is stored as an item of `item_type` value 'mime', with `content_type` in `ItemInfoEntry` set equal to the MIME type specified for MPEG-7 metadata.

*In B.2.4.1, re-label "NOTE 1" as "NOTE" and remove NOTE 2.*

*In B.4.1.1, add a dash in front of "The content of the item conforms to the Main profile or the Main Still Picture profile of HEVC" so that it becomes the final item in the first list in this subclause.*

*In B.4.1.2, B.4.1.3, B.4.3.2, B.4.3.3, E.4.1.2, E.4.1.3, H.4.2, and H.4.3, replace all occurrences of:*

The item is a crop-rotate-mirror derived image item, and each source image item of the item is

*with:*

The item is a crop-rotate-mirror derived image item, and the source image item of the item is

*In B.4.3.2, replace:*

Files including 'heim' as a compatible brand shall contain an item that is present in the file, is either the primary item or any item from the alternate group containing the primary item, and fulfils one of the following constraints:

- The item is a coded image item conforming to the 'heim' brand as specified in B.4.3.1.
- The item is a crop-rotate-mirror derived image item, and each source image item of the item is either a crop-rotate-mirror derived image item or a coded image item conforming to the 'heim' brand as specified in B.4.3.1.

*with:*

Files including 'heim' as a compatible brand shall contain an item for which all of the following conditions are true:

- The item is present in the file.
- One of the following conditions is true:
  - The item is the primary item.

- The item is any item from the alternate group containing the primary item.
- The item is included in a 'ster' entity group together with the primary item or any item from the alternate group containing the primary item.
- The item fulfils one of the following constraints:
  - The item is a coded image item conforming to the 'heim' brand as specified in B.4.3.1.
  - The item is a crop-rotate-mirror derived image item, and each source image item of the item is either a crop-rotate-mirror derived image item or a coded image item conforming to the 'heim' brand as specified in B.4.3.1.

*Add the following at the end of B.4.3.2:*

NOTE The use of an external base layer is allowed in the 'heim' and 'heis' brands. The coded data for an external base layer picture is not required to be within a HEIF file. The `DataReferenceBox` allows referring to coded data that is present in an external file. For example, a JPEG file can be used as an external base layer picture for a HEIF file conforming to the 'heim' or 'heis' brand.

*In C.2, in additional information replace:*

File extension(s): heif (for subtype heif), heic (for subtype heic)

*with:*

File extension(s): heif (for subtype heif), heic (for subtype heic), hif (for subtypes heif and heic)

*In D.2, in additional information replace:*

File extension(s): heifs (for subtype heif-sequence), heics (for subtype heic-sequence)

*with:*

File extension(s): heifs (for subtype heif-sequence), heics (for subtype heic-sequence), hif (for subtypes heif-sequence and heic-sequence)

*In E.2.5, remove the NOTE.*

*In E.4.2.2 and E.4.2.3, replace "with constraint set 4" with "constraint\_set4\_flag is equal to 1".*

*In K.2, remove "in 9.4.3.1" from the NOTE.*